

B.E. (Civil Engineering) Seventh Semester (C.B.S.)  
**Elective - I : Air Pollution & Solid Waste Management**

P. Pages : 2

Time : Three Hours



TKN/KS/16/7523

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
  2. Due credit will be given to neatness and adequate dimensions.
  3. Assume suitable data whenever necessary.
  4. Diagrams and chemical equations should be given whenever necessary.
  5. Illustrate your answers whenever necessary with the help of neat sketches.
  6. Use of non programmable calculator is permitted.

1. a) What are the major air pollutants and what are the effects of air pollutant on man (any two) 6
- b) Define air pollution. Give the various sources of air pollution. 7

**OR**

2. a) Write short note on standards of air pollution. 6
- b) Explain Green house effects. 7
3. a) Write short note on stack sampling in industry. 6
- b) A factory uses 0.3 million liters of fuel oil per month. (Specific gravity 0.96). It has been estimated that one million liters of oil used per year, the following are the quantities of pollutant observed.
- 1) Particulate matter = 3.5 tonnes / year      2) SO<sub>2</sub> = 60.4 tonnes / year
- 3) NO<sub>x</sub> = 7.0 tonnes / year                      4) CO = 0.50 tonnes / year
- Assuming factory works 300 days for 24 hours.  
Determine the safe height of chimney for the safe dispersion of pollutants.

**OR**

4. a) Write short note on High volume sampler. 6
- b) Define wind rose. Explain its importance in air pollution studies. 7
5. a) List out the controlling equipments used in industries to control particulate matter and explain bag filter. 7
- b) What are the  $1\mu$  effects of sound pollution on health and how to control it. 7

**OR**

6. State the principles on which gaseous pollutants controlling equipments are used and explain the various methods used to control gaseous pollutants in industries. 14
7. a) What are the physical characteristics of solid waste and explain how to determine them. 6

b) Write short note on necessity and responsibility of solid waste management. 7

**OR**

8. a) Write short note on sampling of solid waste. 6

b) What are various sources for generation of solid waste. 7

9. a) What is transfer station. Explain its types. 7

b) Write short note on Heuristic method along with guiding principles. 7

**OR**

10. a) Write short note on methods for separation of municipal solid waste (any two) 7

b) Explain the methods of collections of solid waste from house to house. 7

11. a) How to control leachate from sanitary landfill. Explain it. 6

b) What are factors on which composting is depends explain any four. 7

**OR**

12. Write short note on **any three**. 13

i) Site selection of sanitary landfill.

ii) Types of incinerator.

iii) Three component diagram.

iv) Control of gaseous from sanitary landfill.

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